Syllabus

Oil and Gas Exploration and Production
For
Nontechnical Personnel

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Course Goals:
This course is designed to give a nontechnical student an understanding of the process of exploring for, producing, and terminating oil and gas projects.

Course Prerequisites: The student must be in academic good standing.

Text Book: "Fundamentals of Petroleum", 5th edition, The Petroleum Extension Service (PETEX), 2011, ISBN 0-88698-231-6.

Topics:

Topic 1 "The Reason Why" A brief history of the use of oil and gas.

Topic 2 The generation of oil and gas prospects.
Basic geology and rock properties.
Basic seismology.
Following the lead of others – "closeology"

Topic 3 Procuring the right to drill – "the mineral lease"
Regulatory Permits

Topic 4 Basic Drilling Operations
The rig and rig site
Drilling Fluids
Well Bore Architecture
Well Control
Deviated Wells
Open Hole Evaluation using well logs, cores, and fluid tests.

Topic 5 Basic Completions
Open hole
Slotted Liner or Gravel Pack
Cased and Perforated
Multiple Completions
Tubing and Packers
Perforations
Near Well Bore Damage
Well Stimulation

Topic 6 Basic Production Operations

	Reservoir Mapping – how much is there? Recovery mechanisms Basic Economics Flow from the Reservoir Well Testing Artificial Lift
Topic 7	Improved Oil Recovery Methods Water Flooding CO2 Flooding Chemical Flooding
Topic 8	Oil and Gas Field Processing Basics Pollution Line Heaters Separators Gas Dehydrators Gas Compressors Water Disposal
Topic 9	Oil and Gas Transportation Pipelines Trucks Railway Tankers and LNG
Topic 10	Closing a Project – Plug and Abandonment and Site Restoration

Grading:

Home or Class Work	50%	A	90-100
Midterm Exam	25%	B	80-89.99
Final Exam	25%	C	70-79.99
		D	60-69.99
		F	below 60

Turn in homework at the start of class. The lowest homework grade will be dropped.
All homework and exam grades are final after one week of return.
Any re-grading will be for the entire exam or homework.
Please check Black Board weekly to verify your grades.

Students with Disabilities: The University of Texas at Austin provides, upon request, appropriate academic adjustments for qualified students with disabilities. For more information, contact the Office of the Dean of Students at 471-6259, 471-4241 TDD or the College of Engineering Director of Students with Disabilities at 471-4321. You must make testing accommodations through Student Services for the day listed for the exams. So, bring the forms to me for signature at least two weeks prior to the exam date.

Add/Drop/Withdrawal: A student should make an appointment with his/her departmental advisor to discuss adding or dropping any course if the change will alter the classes that were originally approved by the departmental advisor. If the add or drop requires the approval of the Dean, then the student will need to schedule an appointment with an Academic Advisor in the Office of Student Affairs, ECJ 2.200 (471-4321) to discuss the request.

Additional information can be found at http://www.engr.utexas.edu/current/policies/pol_add-drop-wdraw.cfm.

Academic Dishonesty: Engineering and business ethics demand that no student should allow themselves to be involved in cheating of any type. Plagiarism is another form of cheating. You may use other published work, but only if referenced. It is permissible in this class to collaborate on class or home work. It is not permissible to collaborate on any exam. In the unlikely event that cheating takes place, the students involved will be reported and appropriate action taken.